TheraBee: Accessible Mental Health Screening and Support Through the Use of Generative AI and Autoregressive Agentic Assessment

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This project addressed a critical gap in adolescent mental health support by expanding TheraBee, an artificial intelligence-powered screening and support-routing application for teenagers. TheraBee was designed to detect emerging mental health concerns through ongoing natural-language interaction and direct users toward appropriate support through guardian-mediated intervention. This year's work focused on overcoming a major limitation in the system by adding a structured recommendation pipeline that translated screening output into actionable next steps. TheraBee was evaluated using therapist-validated conversational testing. For each conversation, the system analyzed user language, inferred the level of concern, and generated support recommendations based on the apparent severity and type of need. These recommendations included appropriate escalation targets such as guardians, trusted adults, therapists, and crisis resources. The updated system also provided immediate, user-friendly support during interaction while maintaining a non-diagnostic framework. Results showed that TheraBee achieved 97.5% accuracy in matching recommendations made by mental health professionals. These findings indicate that the system can reliably classify appropriate next-step support while operating as an accessible early-intervention tool. Overall, this research demonstrated that TheraBee can do more than identify mental health concerns as they arise. It can also convert those detections into structured, therapist-aligned guidance, helping connect teenagers to appropriate human support through their guardians before concerns intensify.

Awards Won:
Second Award of $2,400